

REMARKS

In the Office Action the Examiner noted that claims 1, 6, 22-33 and 35-37 were pending in the application. The Examiner allowed claims 22-24, 30, 31, and 35-37, while rejecting claims 1, 6, 25-29, 32 and 33. By this Amendment, claim 6 has been cancelled and various claims have been amended. Thus, claims 1, 22-33 and 35-37 are pending in the application. The Examiner's rejections are traversed below.

Claim Amendments

In view of the unusual format of reissue claims, examples of the amendments are provided below for the convenience of the Examiner. Claim 1 has been amended to change the term "SAW filter" to --band-pass filter--, to change the term "one-port SAW resonators" to --acoustic wave resonators--; and to delete certain other language from the claim. The remaining claims have been amended, for example, to change the terminology "a SAW filter" to --an acoustic wave filter--; and to change the term "SAW resonator" to --acoustic wave resonator--. In addition, the terms "one-port" and "in series" have been deleted from claim 30.

Rejection under 35 U.S.C. § 112

In item 2 on page 2 of the Office Action the Examiner has rejected claims 32 and 33 under 35 U.S.C. § 112 as being indefinite. Claims 32 and 33 have been amended in accordance with the comments raised by the Examiner. Therefore, it is submitted that claims 32 and 33 meet the requirements of 35 U.S.C. § 112.

Prior Art Rejections

In item 5 on pages 3-5 of the Office Action the Examiner has rejected claims 1, 6, 25, 26 and 29 as unpatentable over U.S. Patent 5,115,216 to Hikita et al. (Hikita et al. '216) taken in conjunction with Hikita JP 59-158117 (Hikita JP '117"). In addition, in item 6 on pages 5 and 6 of the Office Action, the Examiner rejected claims 27 and 28 under 35 U.S.C. § 103 as unpatentable over Hikita et al. '216 in view of the Hikita JP '117 patent and further in view of U.S. Patent 4,409,567 to Setsune et al.

The Applicants' traverse the Examiner's rejections below with focus on the remaining rejected independent claims (claims 1 and 25). It is noted that claim 6 has been cancelled.

Claim 1

Claim 1 as amended specifies an arrangement where a pair of band-pass filters have a multiple ladder structure without specifying a structure of the first stage, and an inductance element located between one of the band-pass filters and the common signal terminal. In contrast, the combination of Hikita JP '117 and Hikita '216 has two matching circuits between the first stage of both the first and second SAW filters and common signal terminals. It is submitted that it would not have been obvious to have modified the prior art arrangement to have an inductance element located between one of the band-pass filters and the common signal terminal. Referring to the claim language of claim 1, it is submitted that the prior art does not teach or suggest the claimed band-pass filter comprising:

a pair of band-pass filters having respective pass bands and comprising a plurality of acoustic wave resonators connected in a multiple ladder structure, each having at least a first stage located at a side of the pair of band-pass filter common signal terminals and a pair of input terminals and a pair of output terminals; ...

an inductance element located between one of the band-pass filters located at the first stage and one of the common signal terminals.

Therefore, it is submitted that claim 1 patentably distinguishes over the prior art.

Claim 25

As amended, claim 25 is directed to a band-pass filter which includes:

a first band-pass filter having a pass band, having a band center frequency and comprising a plurality of acoustic wave resonators connected in a multiple ladder structure, having at least a first stage located at a side of the pair of band-pass filter common signal terminals, a pair of input terminals and a pair of output terminals;

a second band-pass filter having a different pass band from the pass band of the first band-pass filter, having a band center frequency which is larger than the band center frequency of the first band-pass filter and comprising a plurality of acoustic wave resonators connected in a multiple ladder structure, having at least a first stage located at a side of the pair of band-pass filter common signal terminals, a pair of input terminals and a pair of output terminals; ...

an impedance matching circuit located only between the first stage of the second band-pass filter and the corresponding common signal terminals.

Therefore, it is submitted that claim 25 patentably distinguishes over the prior art.

Claims 26-29

Claims 26-29 depend from claim 25 and include all of the features that claim, plus additional features which are not taught or suggested by the prior art. Therefore, it is submitted that claims 26-29 patentably distinguish over the prior art.

Amendments to claim 30

Claim 30 as indicated above, has been broadened , for example, by deleting the term "one-port" from the claims and by amending the last paragraph of the claim to recite "a circuit element used for phase rotation and connected between at least one of the pair of common signal terminals and the second band-pass filter. Claim 30 still recites "a series-arm resonator located at the first stage [of the first band-pass filter]" and " a parallel arm resonator located at the first stage [of the second band-pass filter]". It is submitted that these features are not taught or suggested by the combination of the Hikita '216 and Hikita JP '117 references. Therefore, it is submitted that claim 30 still distinguishes over the prior art.

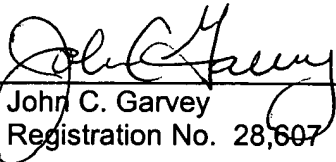
Summary

It is submitted that none of the references, either taken alone or in the combination, teach the present claimed invention. Thus, claims 1, 22-33 and 35-37 are deemed to be in a condition suitable for allowance. Reconsideration of the claims and an early Notice of Allowance are earnestly solicited.

Respectfully submitted,

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